

***Cynoglossus puncticeps* (Richardson)**

Specimens from Bombay and Gholvad.

Hab. From Sind, through the Indian Ocean and Archipelago to China.

TARAPOREVALA MARINE BIOLOGICAL

RESEARCH STATION,

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14. ON THE ABILITY OF *GLYPTOTHORAX TELCHITTA* (HAMILTON) TO SURVIVE OUTSIDE WATER

During a study of the fish fauna of the upper Gangetic plain, I came across an extraordinary case of the ability on the part of *Glyptothorax telchitta* (Hamilton), a fish belonging to the family Sisoridae and locally known as *tillier*, to survive outside water.

On 20 December 1960 I went with some fishermen to Kalinadi (a small stream flowing along the western border of Muzaffarnagar town) to observe the catch and to collect fish for my work. At about 11 a.m. a solitary *Glyptothorax telchitta* (Hamilton) was netted and I asked the fisherman to keep it separately for me in his basket. At about 3 p.m., when the fishing was over, I selected some more fish, put them all in a paper bag, and reached the laboratory at 3.45. At about 4.30 I took the whole lot of fishes and placed them in a sink for washing. As I opened the tap, I saw, to my surprise, that *G. telchitta* was still alive. I separated it from other fish and put it in flowing water (a sink full of water with an overflow arrangement). I found that the fish regained its normal activity and to all appearances was none the worse for its ordeal of more than 5½ hours outside water. It was perfectly normal and healthy even after five days when I fixed the whole fish in Bouin's fluid for histological examination.

No accessory respiratory organs are known to exist in this species, nor were any discovered on a careful examination. It was noted, however, that all the barbels, the characteristic adhesive pad on the ventral side, and the lips were blood-red in colour after 5½ hours' stay outside water. This indicates that all these parts were suffused with an unusual supply of blood to enable them to allow gaseous exchange with the atmosphere necessary for maintaining at least the minimum respiratory activity required for survival. This process may probably be supplemented by the gills by gasping air through the

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mouth. These factors, along with the fact that the general metabolism of the fish is at a low ebb during winter, may have contributed a good deal to this extraordinary ability. In about 12-15 hours the colour of the parts which had become blood-red at the time of putting the fish in flowing water became normal.

Whether this is an instance of exceptional capacity on the part of the individual or is a characteristic of the species is not clear, but a possible significance of this phenomenon in nature may be found in the ecology of the torrential streams which constitute the natural habitat. It is possible that the rapid current of the streams might some time throw these fishes out of water, or a rock to which they might be attached may suddenly become exposed for some time due to the lowering of the water level or shifting of the current. In such an emergency the ability to survive outside water would be a great advantage in the struggle for existence.

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15. A NEW SPECIES OF *STENOCRANUS* : *S. AJMERENSIS*
SP. NOV. (ARAEOPIDAE : FULGOROIDAE : HOMOPTERA :
HETEROPTERA)¹

(With a plate)

MALE

Length 4.3 mm. (approximate).

Vertex, pronotum and mesonotum stramineous; mesonotum stramineous suffused with ochraceous; the area between the lateral and median carinae of frons dark black; the carinae on the ventral side of head stramineous; the area outer to the lateral carinae and inner to the outer carinae and the clypeus pale brown; the remaining part of the ventral side of head ochraceous. Antennae ochraceous. Ventral side of thorax ochraceous, legs stramineous with castaneous streaks. Tegmen (Plate, fig. 4) subhyaline, distally the veins pale brown. Abdomen ochraceous marked with castaneous.

¹ Communicated by the Principal, Lohia College, Churu, Rajasthan.